Sam Laing

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Personal Statement

Machine Learning Engineer with a Master's degree from the University of Tübingen and First-Class Honours in Mathematics from Trinity College Dublin. Experienced in building and deploying ML models in real-world fintech systems, with a focus on model optimization, data pipelines, and MLOps. Strong foundation in mathematics and research, with interests in deep learning, transformer architectures, and scalable ML infrastructure. Looking to join a tech-forward team to build production-grade AI solutions and tackle complex ML challenges.

Skills

Languages: Python, C++, SQL, R

ML Tools: PyTorch, JAX, WandB, Torch Lightning, Numpy, Pandas, Scikit-learn, Optuna,

Infrastructure: Azure, SLURM, FastAPI, Git, GitLab

Experience

SoftCo Dublin, Ireland

Machine Learining Engineer *May 2023 – April 2025, Part-time*

Business Analyst Intern *May 2022 - September 2022*

- Developed and deployed a Bayesian invoice-matching module, enabling 95%+ touchless processing and automating a significant portion of AP services. This solution enhanced sales by demonstra ting high auto-match rates during customer onboarding, leading to increased customer acquisition and significant cost savings for clients.
- Developed and deployed a Random Forrest model as part of a product automating invoice coding to eliminate manual effort for customers. The project involved multi-label classification task with a large number of classes.
- Implemented data parsers and contributed to an Azure-based ETL pipeline to support model training workflows.
- Produced comprehensive documentation for machine learning models to ensure clarity and reproducibility and worked within Agile framework

University Of Tuebingen Tuebingen, Germany

Student Researcher *May 2024 - September 2024*

- Researched the effectiveness of soft label datasets in improving the calibration of deep neural networks, comparing their utility against regularization techniques such as MixUp, Manifold MixUp, CutMix, and Dropout in distance-aware networks like SNGP, DUQ, and Mahalanobis Distance. Github Repository of some work here

Trinity College Dublin, Ireland

Teaching Assistant *Sep 2021 – Dec 2021 and Sep 2022 - December 2022*

- Lead tutorials for the advanced Engineering Mathematics course offerred at Trinity College Dublin. The topics included Fourier Analysis, Partial Differential Equations and Linear Programming.

Education

University of Tuebingen Germany

MSc. in Machine Learning; ***Current Grade Average: 1.4 (equivalent 3.8 GPA USA)*** *Oct 2022 – Present*

Master's Thesis: Conducting research into adaptive optimizers for transformer foundation models. In particular, interested in second-order optimization, LLM pretraining and fast training. Supervised by Antonio Orvieto

Trinity College Dublin Ireland

BA Mathematics; ***First Class Honors*** *Sep 2018 – Jun 2022*

Bachelor Thesis: Applied category theoretical techniques (in particular simplicial homotopy theory) to prove several fundamental theorems of algebraic topology. Supervised by Dr Jack Kelly

Awards & Achievements

Trinity College Academic Gold Medal: Awarded to graduating students who achieved over a certain grade point average througout the four year degree.

William Hasslett Memorial Prize: Awarded to the St Andrew's College student with the best high school grades and attending Trinity College (in the Leaving Certificate Examinations) (2017)

References

Susan Spence, Co-founder SoftCo & Manverton (email)

Neil Kelly, Product Manager SoftCo (email